

# Derbyshire's

## Local Flood Risk

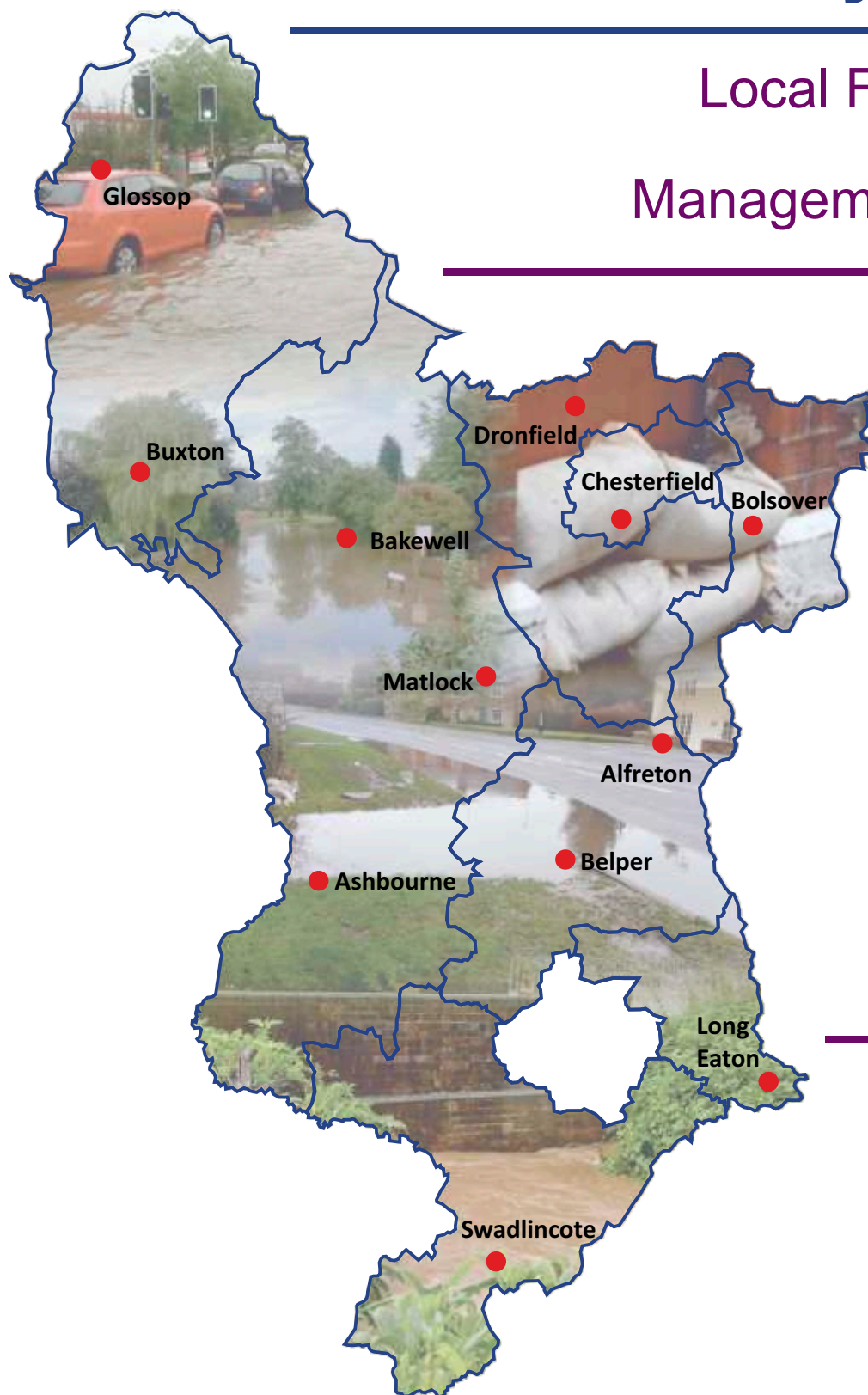
## Management Strategy

July 2015

## Part 2

## Technical

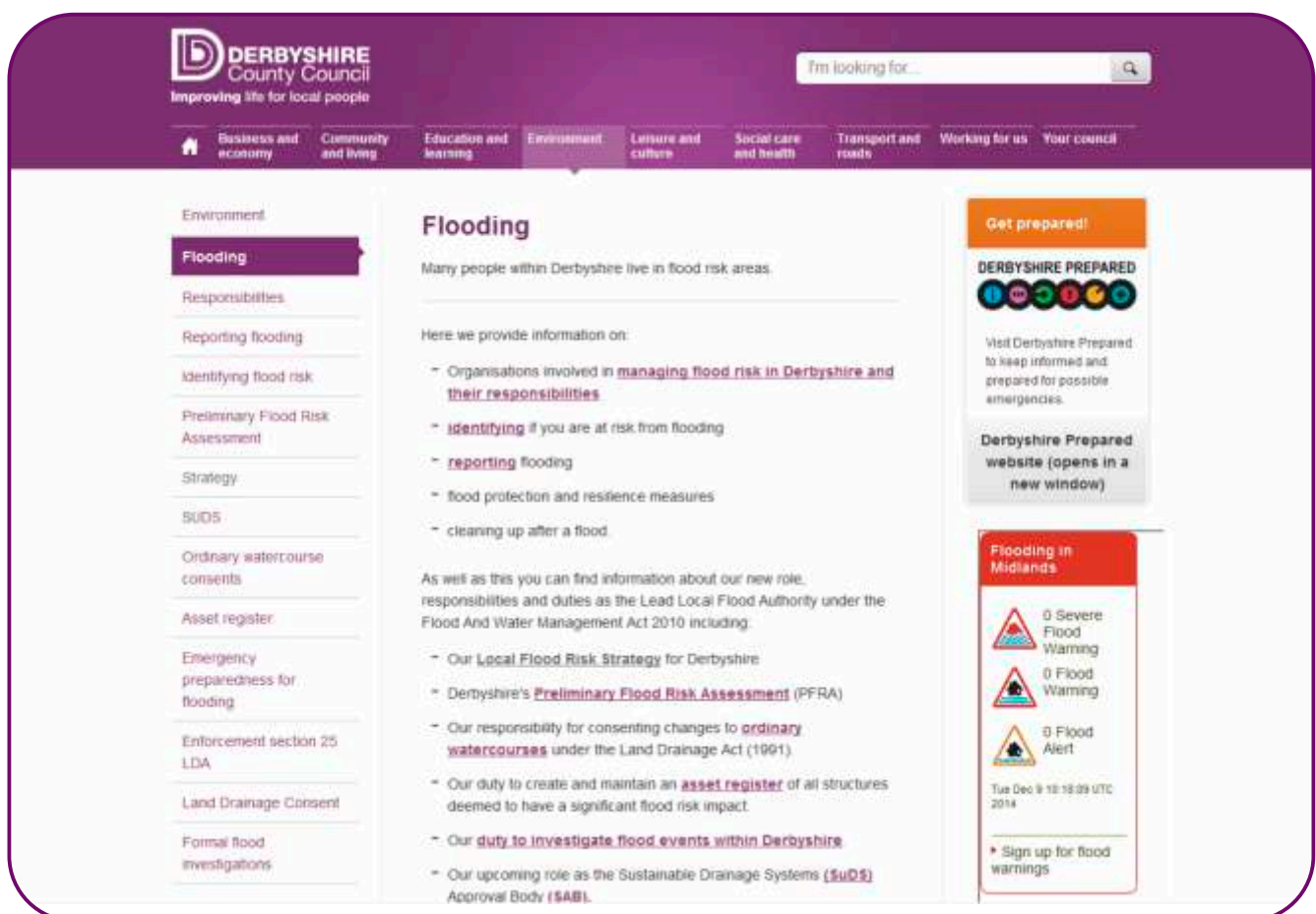
## Guidance



**Part 2** of Derbyshire's Local Flood Risk Management Strategy focuses on the more technical details for understanding flood risk in Derbyshire, our action plan for how we intend to manage the future risks and how we can fund our flood risk management functions and initiatives.

**Part 1** of the Local Flood Risk Management Strategy has been designed to provide you with general information about flooding and flood risk, who to call and how you can help yourself become more resilient to the impacts of flooding.

There are a number of supporting **Guidance Notes** that support the information within the Local Flood Risk Management Strategy that can be viewed on our website [www.derbyshire.gov.uk/flooding](http://www.derbyshire.gov.uk/flooding).



## WHY IS THIS DOCUMENT IMPORTANT TO YOU?

Extreme weather events are predicted to occur more often and we cannot stop flooding from happening. However, we can look for ways to minimise the damage caused and support those affected.

This document forms the framework within which communities can have a greater say in local flood risk management decisions to help improve life for local people. It also provides a common source of information for the residents and businesses of Derbyshire.

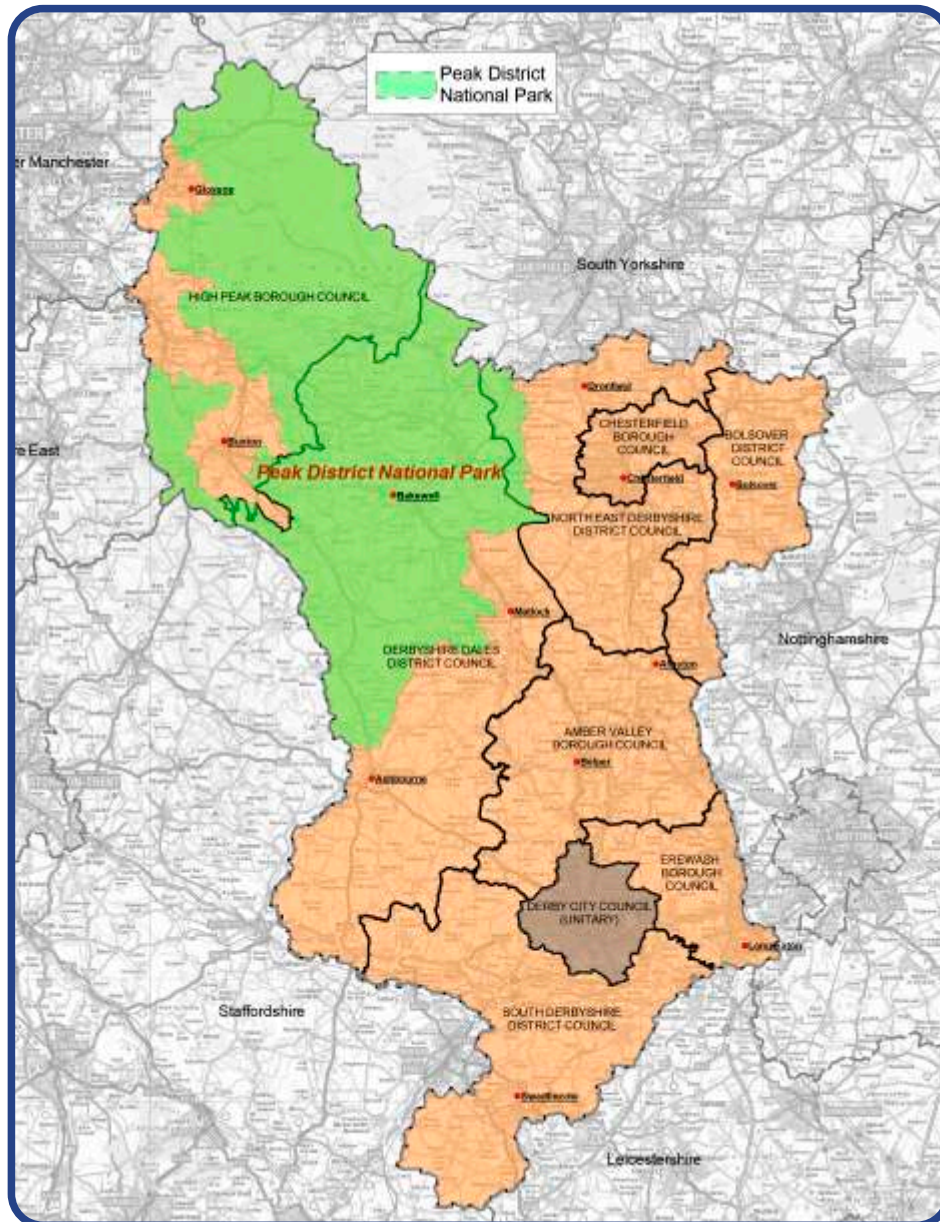
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## 12. DERBYSHIRE OVERVIEW

Derbyshire is a Shire County within the East Midlands. The northern part of Derbyshire overlaps with the Pennines, a chain of hills and mountains forming the backbone of England. The County comprises an area of 2,625km<sup>2</sup> with a population of approximately 1 million (including Derby City) and borders on Greater Manchester, Yorkshire (south and west), Nottinghamshire, Leicestershire, Staffordshire and Cheshire. The city of Derby is a Unitary Authority.



**Figure 6: District and Borough Councils of Derbyshire.**

The County contains 30 towns with between 10,000 and 100,000 inhabitants as well as a large amount of sparsely populated agricultural land. There are eight District / Borough Authorities encompassed within Derbyshire shown on Figure 6. The Peak District National Park encompasses parts of the High Peak Borough, Derbyshire Dales District and North East Derbyshire District. Derbyshire is a very diverse County in terms of setting and natural landform.

## Sources of flood risk data

The County Council have access to a range of data from across the County from a range of sources including fluvial (river) flood maps, surface water flood maps and indication of groundwater levels. This data is held on the County Council's computer network and varies in its quality, although the County Council aim to hold the highest possible quality data available. For more information about the different types of data available please refer to the [Data Held, Sources and Requests Guidance Notes](#).

## Requesting and sharing information

The Flood Risk Management (FRM) team have provided a number of datasets to, and have also received a number of datasets from a range of Risk Management Authorities (RMAs) in Derbyshire. The FRM team aim to share as much knowledge and data as possible to encourage integrated flood risk management. Further information relating to these requests for information can be found in the [Data Held, Sources and Requests Guidance Notes](#).

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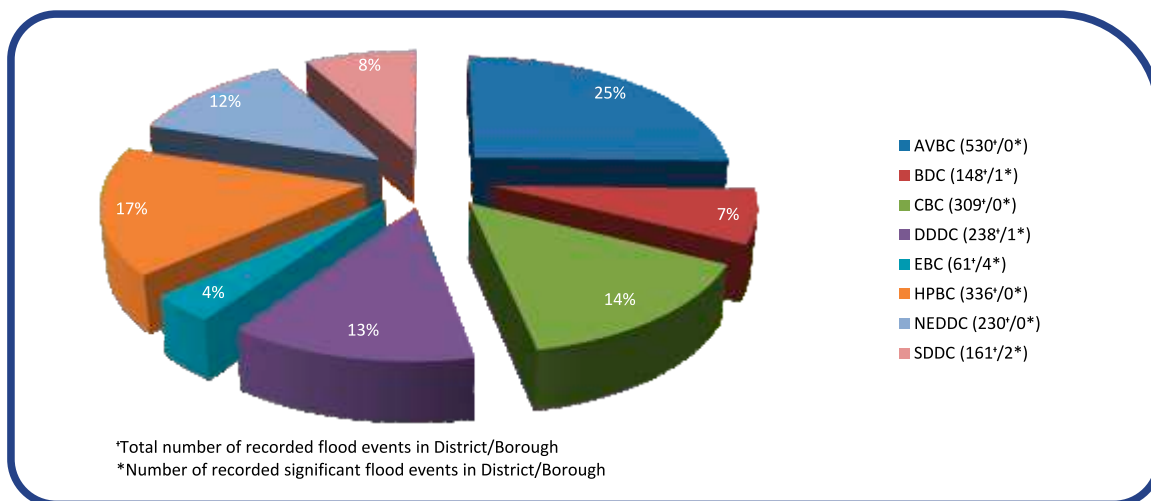
## 13. CURRENT UNDERSTANDING OF FLOOD RISK IN DERBYSHIRE

### Historical setting

Prior to the County Council becoming the Lead Local Flood Authority (LLFA) for Derbyshire (please refer to [Part 1, Section 3](#) of the strategy for more details) flood risk was mainly coordinated and managed by the Environment Agency. The County Council's remit was previously limited to maintaining Highway assets and managing flood water that fell within the adopted Highway curtilage. The District/Borough Councils have a flood risk management function at a local level as a Land Drainage Authority (working closely with the Environment Agency). For more information on who to call to discuss a flood enquiry please refer to [Part 1, Section 3](#) of the strategy.

Following the establishment of the LLFA, historical flood information was gathered from the Environment Agency, District/Boroughs and a range of other organisations totalling in excess of 1800 reported flooding enquiries. Since then DCC are continuing to update the data set with further reported incidents (Key Action 1.3).

Figure 7 illustrates the distribution of reported flood incidents across the District/Boroughs reported up to December 2014. The County Council historic flooding records continue to grow as the FRM team continues to evolve under its LLFA duties. For more information about the different sources of flood risk please refer to [Part 1, Section 3](#) of the strategy (Key Action 1.4).



**Figure 7: Distribution of flood risk management enquiries by District/Borough up to December 2014**

### Highway drainage and asset maintenance

Derbyshire has over 5,500km of adopted Highway incorporating over 150,000 gullies. Given the size, complexity and the historic development of the Highway network, records of all related drainage infrastructure continue to evolve and develop over time. Due to this, understanding flood risk to and from the Highway can be extremely problematic.

The County Council inspect and maintain Highway drainage structures. This includes trash screens, culverts and bridges that are within the Highway boundary or that serve the Highway. However, the relevant Water and Sewerage Company are responsible for maintaining public sewers which lie within the Highway and individual landowners are responsible for maintaining structures in private landownership.

Without appropriate maintenance the level of protection provided by drainage assets and structures can decline. However, it is difficult to identify critical flood risk areas or those assets of greatest importance without the necessary data to inform this decision. The County Council are therefore currently running a number of projects to expand our understanding of flood risk and drainage provision within the County's Highway network (Key Action 4.7).

As a statutory requirement the County Council hold a register of assets in Derbyshire that are known to pose a significant flood risk to people, property and or critical infrastructure. This register is publically available.

Further information relating to the County Council's approach to asset management can be found in the **Asset Maintenance, Register and Designation Guidance Notes**. For more information about Highway network management please refer to the **Highway Statutory Duties and Vested Powers Guidance Notes**.

Do you know of a County Council asset that we may not be aware of, or one that may be operating inefficiently due to its condition?  
Please contact Call Derbyshire on 01629 533190 or report online via:  
[www.derbyshire.gov.uk/do\\_it\\_now](http://www.derbyshire.gov.uk/do_it_now)

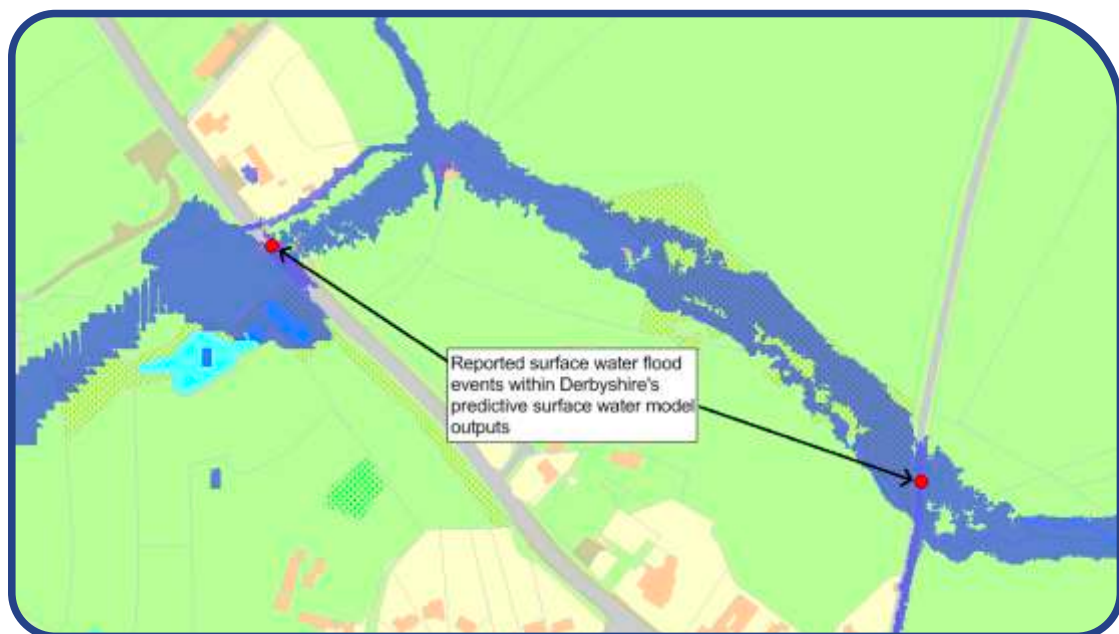
## Predictive data

The County Council recognise that historical awareness of flood events coupled with modelled or predicted flood risk is critical for understanding where future flood risk is greatest. In many cases, modelled or predicted indications of flood risk to communities can be validated by the comparison of the history of flooding. Often, 'local residents' own experiences of flooding have helped to validate the predictive data that the County Council hold which has led to a much greater confidence in predictive data. Localism is key to helping the FRM team develop a greater understanding of the local sources, mechanisms and impacts of flooding faced by a community.

## Surface water flood data

The majority of Derbyshire could be at risk of surface water flooding from extreme localised rainfall events regardless of any historical evidence of flooding. For more information relating to surface water flooding please refer to the [Surface Water Guidance Notes](#).

To help to comprehend the scale of surface water flood risk in Derbyshire the FRM team (in partnership with a technical consultant) has produced a modelled representation of surface water flood risk for Derbyshire for several rainfall/storm scenarios. The output of the model illustrates the extent of surface water flooding likely to occur in the modelled rainfall/storm events in each area of Derbyshire.



**Figure 8: Validation of predictive surface water model data (shown in blue) with reported historical records of surface water flooding (shown by red points)**



The model output also illustrates the likely depth of that flooding and the likely motion speed of the water (velocity) at any given point. It is important for the depth and velocity of flood water to be modelled as it can help to identify the most hazardous areas (most threatening to life and property) for surface water flooding. This predicted hazard information can help the FRM team to quantify vulnerable areas (biggest risk to life, property and critical infrastructure), guide future development and also help to guide local communities and improve local resilience.

The County Council have undertaken a process whereby the surface water model outputs have been validated against known historic surface water flooding areas. This has highlighted strong correlation with known flood events as illustrated in Figure 8.

Increased confidence in the dataset assists in determining flood risk from surface water and helps in all aspects of flood risk management including planning application reviews, bids for funding and delivery of schemes for mitigating flood risk. A dataset with a robust validation against real events will help the County Council to identify those communities at greatest risk and how limited resources may be targeted to provide the best support. For more information please refer to Derbyshire's Action Plan in **Section 15**.

### National Assessment of Flood Risk

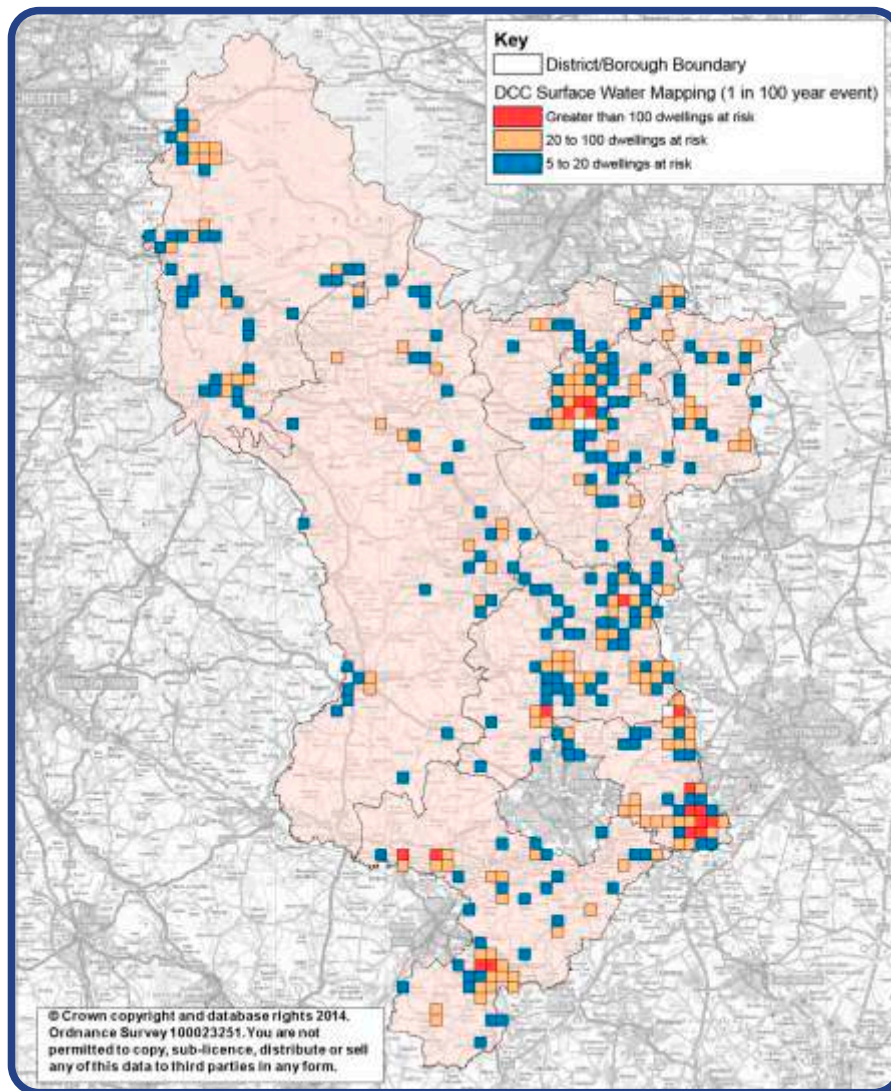
In 2008 the Environment Agency carried out a National Assessment of flood risk which identified that 5.2 million – or one in six – residential and commercial properties were in areas liable to flooding across England. 3.8 million, of the 5.2 million, were identified to be at risk of flooding from surface water sources.





## Derbyshire's Preliminary Flood Risk Assessment

Derbyshire's Preliminary Flood Risk Assessment (PFRA), completed and published in May 2011, was completed to assist the understanding of local flood risk in Derbyshire. Production of a PFRA was a statutory requirement for the County Council under the Flood Risk Regulations (2009).



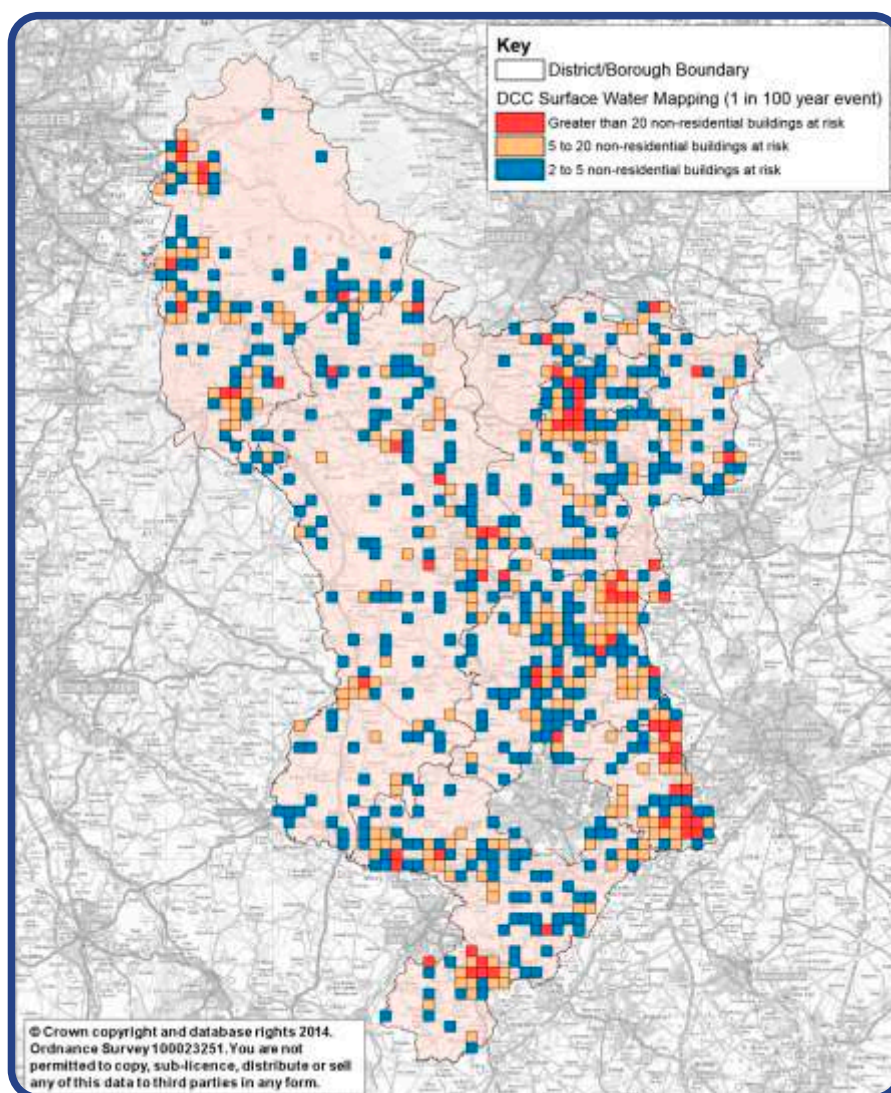
**Figure 9: Distribution of kilometre grid squares with a significant risk of residential dwelling surface water flooding, according to PFRA methodology**

The PFRA was required to provide a high level overview of existing and potential flood risk from local sources. However, the PFRA identified that no area in Derbyshire is considered to be a Significant Flood Risk Area in accordance with the national criteria set by the Central Government.

In the absence of any nationally recognised Significant Flood Risk Areas, the County Council's PFRA used local criteria for significant flood risk for Derbyshire based on rural and urban thresholds, which identified areas of the county by kilometre grid square, that were at an increased risk from surface water flooding. The strategic maps in Figures 9 and 10 represent an update on the analysis detailed in the PFRA completed in 2011.

These maps have been created using an identical process to that detailed in the PFRA, but utilised up-to-date datasets, in particular the County Council Surface Water Flood Maps.

Figures 9 and 10 show clusters of kilometre grid squares that contain increased numbers of residential and non-residential properties at risk of surface water flooding. Spatial analysis like this is a useful tool in strategically identifying areas of Derbyshire that are most at risk of flooding.



**Figure 10: Distribution of kilometre grid squares with a significant risk of non-residential property surface water flooding, according to PFRA methodology**

Derbyshire's PFRA covers only flood risk from local sources (surface water, groundwater and ordinary watercourses). Analysis of flood risk from Main Rivers and reservoirs being covered in the relevant **Flood Risk Management Plan**<sup>16</sup>. The Flood Risk Management Plan for each River Basin District (RBD) will be published by the Environment Agency by 21st December 2015. All areas of Derbyshire are covered by either the Humber RBD or the North West RBD. For further information please refer to the **Water Framework Directive Guidance Notes**.

<sup>16</sup> Information on Flood Risk Management Plans can be found by visiting <https://www.gov.uk/flood-risk-management-plans-what-they-are-and-whos-responsible-for-them> or contacting your local Environment Agency office.

Table 1 below provides a summary of the indicative strategic flood risk from surface water by District/Borough. Identifying critical flood risk areas can help to prioritise support for those communities. For example, Chesterfield was identified as being at risk from multiple sources across the Borough. In 2014 the County Council submitted a bid for funding for an integrated flood model to evaluate this risk further. Further information can be found in the [Chesterfield Integrated Model Guidance Notes](#) and also the [Funding Guidance Notes](#).

District/ Borough	No. of dwellings at risk within District/ Borough	No. of km grid squares within District/ Borough	No. km grid squares with significant <sup>1</sup> surface water flood risk	% km grid squares with significant <sup>1</sup> surface water flood risk	Rank
Chesterfield	1802	94	43	45	1
Erewash	2704	146	50	34	2
Amber Valley	1702	320	78	24	3
Bolsover	683	212	37	17	4
North East Derbyshire	751	363	50	14	5
South Derbyshire	2198	419	55	13	6
High Peak	1063	625	52	8	7
Derbyshire Dales	922	923	47	5	8

<sup>1</sup>Significant risk refers to greater than 5 residential dwellings within a kilometre grid square at risk according to the DCC Surface Water Flood Mapping. This reflects the locally agreed thresholds for a significant flood event (5 or more residential dwellings internally flooded) and therefore the obligation for a Section 19 Investigation.

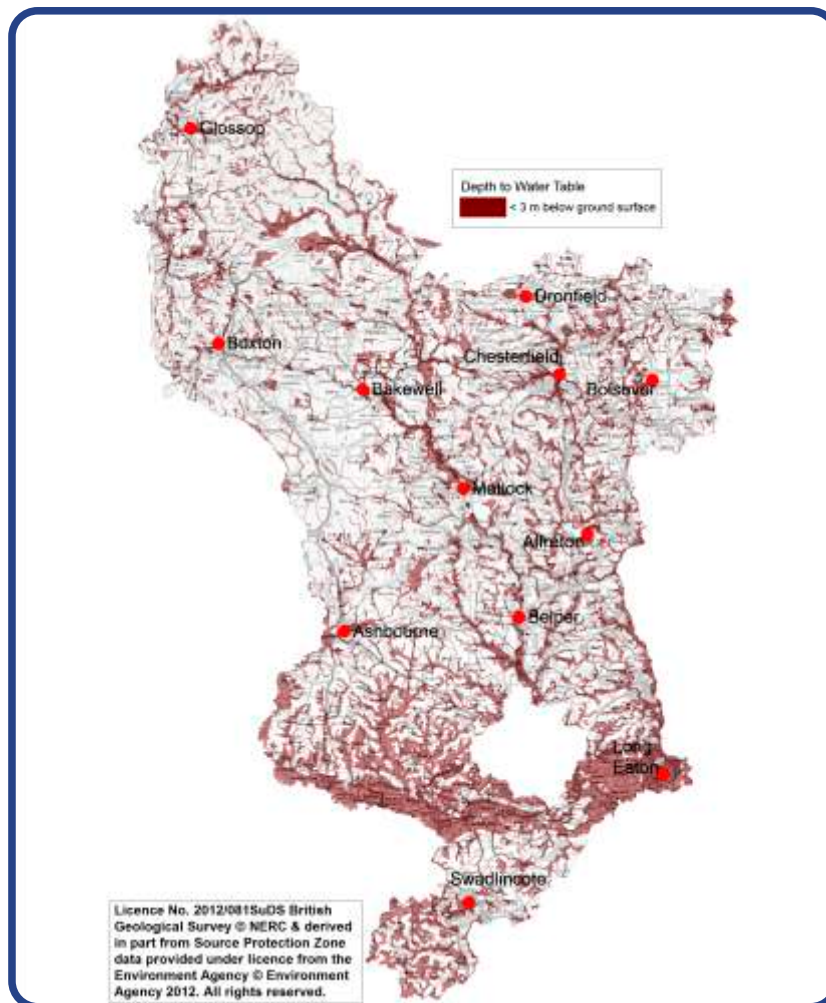
**Table 1: Summary of the indicative strategic flood risk from surface water by District/Borough**

Derbyshire's PFRA is available to view online or by contacting the FRM team directly. An update of the PFRA is scheduled to be completed in 2016.



## Groundwater flood data

Due to the very nature of groundwater flooding, it is often the most difficult source of flooding to predict. Groundwater flooding is a natural occurrence which is dictated by complex below-ground processes. For this reason it is difficult to identify precisely which areas are at increased risk of groundwater flooding. Figure 11 illustrates the current understanding of areas of Derbyshire that may be at risk of shallow groundwater levels.



**Figure 11: Indicative areas of shallow groundwater in Derbyshire according to the BGS SuDS Dataset**

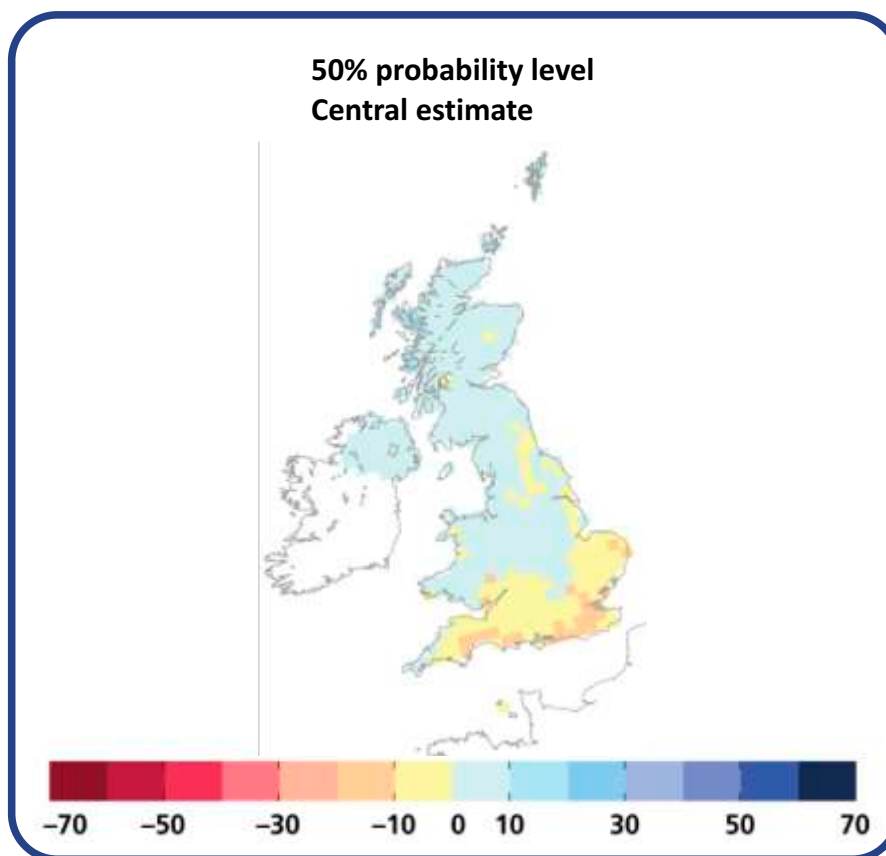
Derbyshire has access via a licence to British Geological Survey (BGS) groundwater datasets (for more information please refer to the [Data Held, Sources and Requests Guidance Notes](#)). The dataset includes classification of groundwater depth, geological indicators of flooding and bedrock permeability. The dataset is a useful strategic tool for indicating broad groundwater conditions area-by-area, but still relies on site ground investigation for a detailed analysis. For more information please refer to the [Groundwater Guidance Notes](#).

As a key action moving forward, the County Council will look at ways to better understand the strategic impact of groundwater in conjunction with other responsible bodies (Key Action 1.3).



## 14. FUTURE IMPACTS ON FLOOD RISK

Climate change projections suggest that the quantity of rainfall is expected to increase alongside an increase in the frequency of intense rainfall events and flash flooding (see Figure 12). This is likely to lead to the exacerbation of all sources of flooding.



**Figure 12: Illustration of the mean predicted change in rainfall on the wettest day of summer (%) for the 2080s (Taken from the UK Climate Projections 09)**

The County Council's corporate policy towards adaptation to anticipated climate change is detailed in **Derbyshire County Council's climate change adaptation action plan**<sup>17</sup>. This document details how the Council's services can be made more resilient to climate change. As part of this strategy, the County Council's primary objective towards climate change adaptation is to adhere to the recommendations surrounding flood risk (Key Action 1.6).

17. [http://www.derbyshire.gov.uk/environment/climate\\_change/default.asp](http://www.derbyshire.gov.uk/environment/climate_change/default.asp)

## 15. OUR ACTION PLAN FOR MANAGING DERBYSHIRE'S FLOOD RISK

### National objectives

The national strategy has set out strategic aims and objectives for managing flood and coastal erosion risks and measures proposed to achieve them.

The overall national aim is to **ensure the risk of flooding and coastal erosion is properly managed by using the full range of options in a co-ordinated way.**

The national objectives are as follows:

1. Ensure the risk of flooding and coastal erosion is properly managed by using the full range of options in a co-ordinated way.
2. Understand the risks and work together to put in place long-term plans to manage these risks ensuring all plans take account of the aims and objectives of the national strategy.
3. Control development in areas of flood and coastal erosion risk to avoid increasing risk.
4. Reduce the risk of harm to people and damage to the economy, environment and society by building, maintaining and approving flood and coastal erosion management infrastructure and systems.
5. Improve public awareness of the risks related to flooding and engaging with people at risk to make them more resilient.
6. Improve emergency planning and recovery by improving the detection, forecasting and issue of warnings of flooding, planning for and co-ordinating a rapid response to flood emergencies and promoting faster recovery from flooding.

## Local objectives

The local objectives for managing flood risk for Derbyshire which demonstrate how we intend to achieve national objectives are illustrated below:

Objective No	Local Objective	National Objectives					
		1	2	3	4	5	6
1	To further develop an understanding of the flood risk to Derbyshire and the impacts of climate change working collaboratively with all other Risk Management Authorities and relevant groups/bodies to ensure a coordinated response to flood risk management for Derbyshire	✓	✓	✓	✓		✓
2	To continue to work with all relevant bodies to ensure appropriate and sustainable development in Derbyshire	✓		✓			
3	To aim to reduce the level of flood risk to the residents of Derbyshire				✓	✓	✓
4	To continue to prioritise limited resources effectively to support communities most at risk in Derbyshire					✓	✓
5	To continue to help and support the local communities of Derbyshire to manage their own risk		✓		✓	✓	✓
6	To continue to help protect and enhance the natural and historic environment of Derbyshire	✓			✓		
✓ = Illustrates tie in between local and national objectives							

## Key actions

The local objectives will be delivered using a series of key local actions as illustrated in Figure 13.

## Local Flood Risk Management Objectives

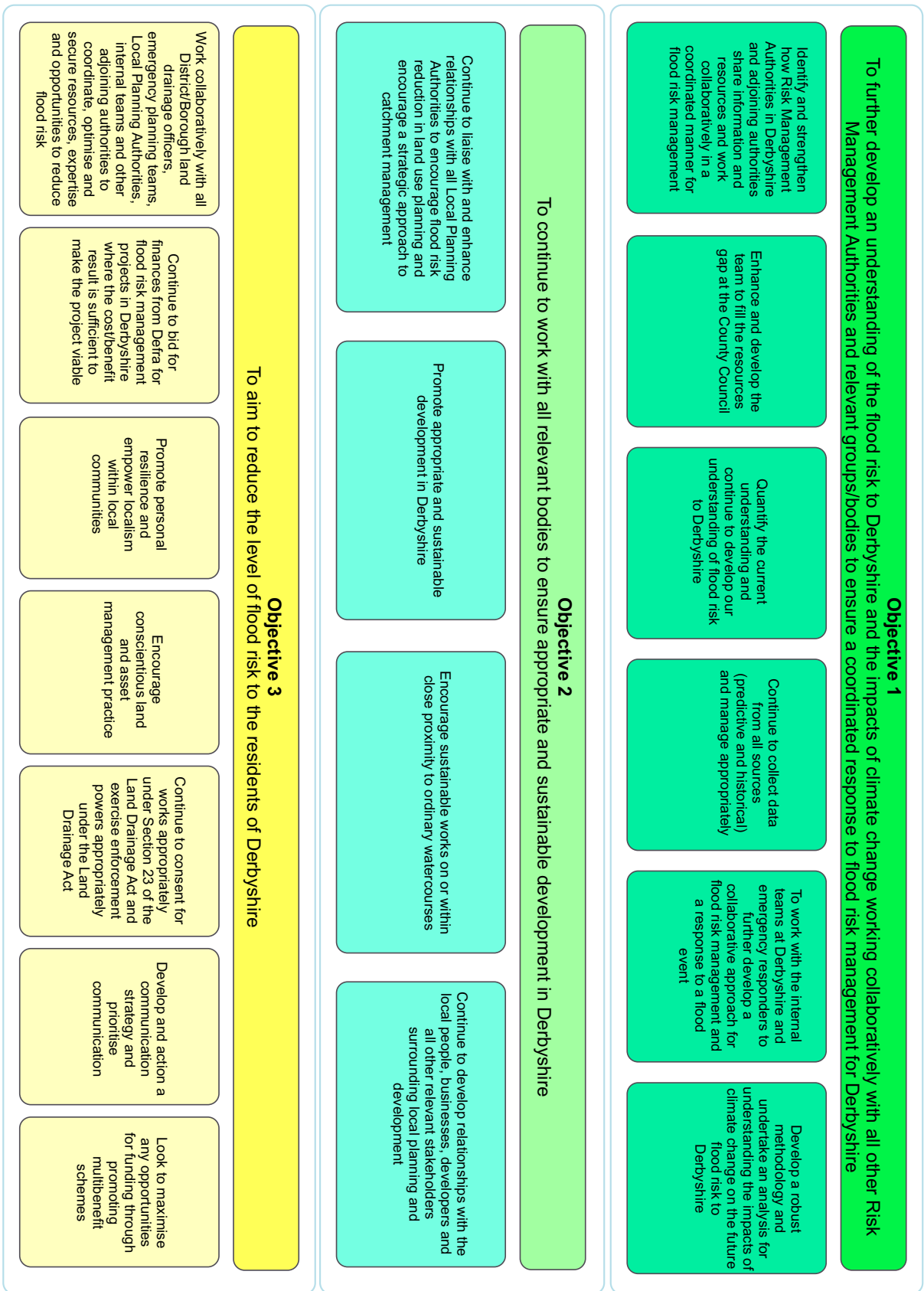


Figure 13: The key actions for the local objectives



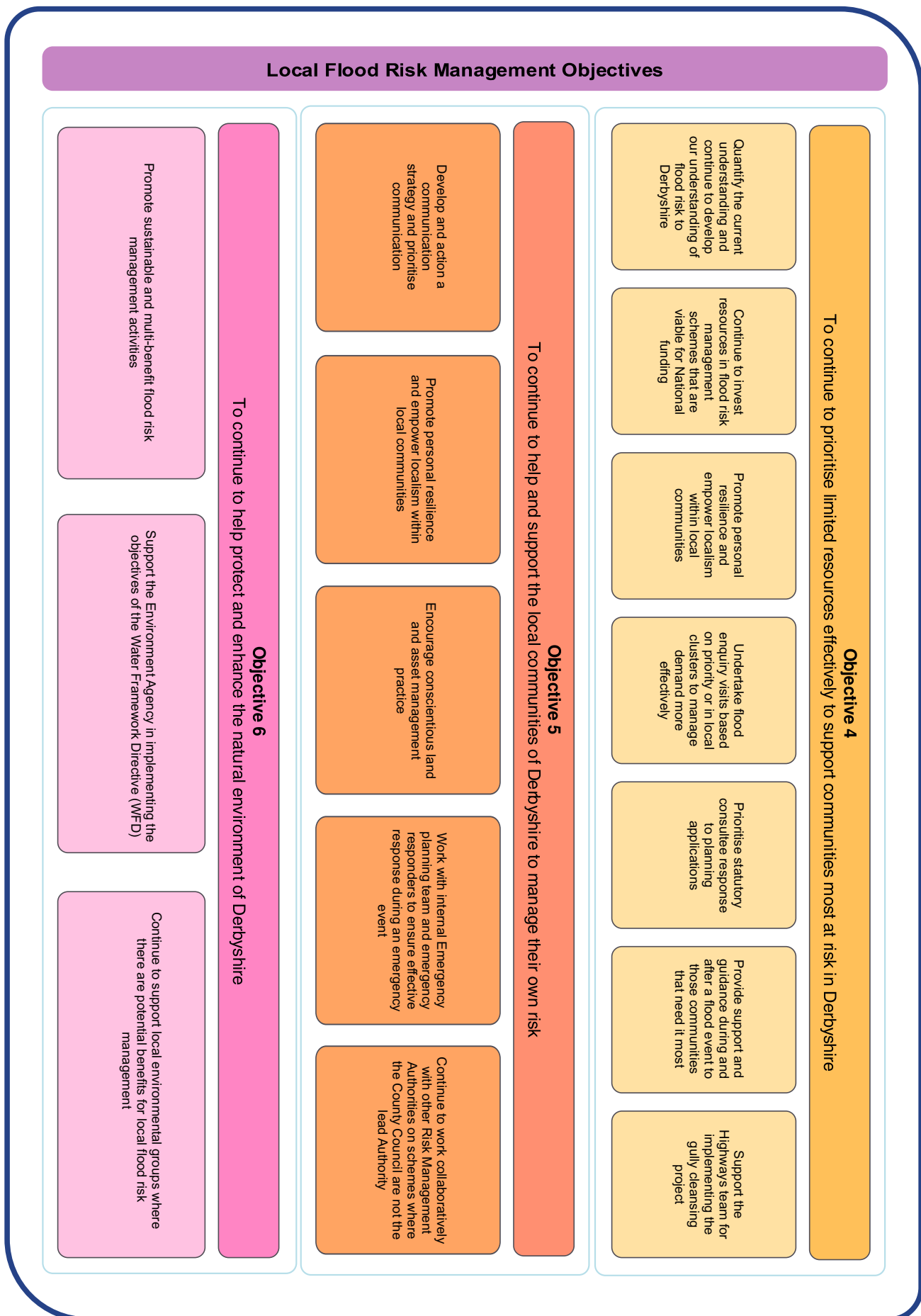


Figure 13: The key actions for the local objectives (continued)

## Priority, timescales and status of key actions

The full Action Plan for implementation of the strategy objectives can be seen in **Appendix 1**. Each key action has been broken down into a series of smaller actions. These actions have each been assigned the following:

- A priority of the action (please refer to **section 20** for prioritisation);

Action Priority	
High	H
Medium	M
Low	L

- A timescale for implementation of the action in which to measure the outcome; and

Action Timescales	
Long (L)	Over 5 years
Medium (M)	2 to 5 years
Short (S)	1 to 2 years

- A status of the action.

Action Status	Description
Continue (C)	Continue to carry out existing role in the future
Develop (D)	Develop and expand upon existing roles or increase existing service area
Establish (E)	Establish a new role or service area
Achieved (A)	Action is already achieved

Moving forward, the County Council will assign a risk and influence to each action.

## Improvement and scrutiny

The County Council has an Improvement and Scrutiny Committee which aim to improve the County Council's service through monitoring the Councils work and making recommendations for improvement. The Committee ensures that the decision-making process is clear and transparent to the public.

The County Council's Scrutiny and Improvement Committee has established a Local Flood Risk Management Working Group to oversee how the County Council and its partners respond to the risk of flooding throughout the county and to review and scrutinise its flood risk management functions.

## 16. PARTNERSHIP FUNDING AND BIDDING FOR MONEY

Our strategy must set out how we intend to fund proposed actions identified in our Action Plan. There are a number of different funding sources available from national, regional and local sources for flood risk management schemes in Derbyshire which are explained further in the [Funding Guidance Notes](#).

### DERBYSHIRE CASE STUDY: PARTNERSHIP FUNDING

A small community in Pinxton have experienced recurrent internal flooding over the past 20 years. Internal flooding occurs as a result of the interaction between fluvial, surface water, groundwater and sewer sources.

In 2011 Derbyshire County Council submitted a bid to secure funding for a Property Level Protection Flood Mitigation scheme from the Government's Flood and Coastal Erosion Risk Management Grant in Aid and Local Levy funding.

Derbyshire County Council, Pinxton Parish Council, the Environment Agency, Severn Trent Water, Bolsover District Council, local councillors and the local community worked together to provide contributions for the scheme.



Securing such a variety of partnership funding sources boosted the schemes score helping to improve the cost/benefit ratio for receiving national funding. This meant that in 2012 the scheme was granted the required funding to enable the project to go ahead.

By November 2013 all affected properties had been provided with Property Level Protection products.

### National six year investment programme for flood risk management

At the time of writing this strategy the government introduced a new six year capital programme of investment (2015/16 to 2020/21), included in the Autumn Statement announcement in December 2014. A number of schemes for Derbyshire have been approved for this six year national programme.

The County Council have committed an element of partnership funding to the schemes currently in this six year programme. However the future availability of additional funding from the County Council is uncertain. Where available, any money for future studies/schemes will be released using a prioritised approach (please refer to **section 19**) to ensure the greatest cost benefit is achieved with the limited finances available. The County Council's current **Six year programme of investment**<sup>18</sup> can be viewed in the national context online.

Please refer to the **Chesterfield Integrated Model** and **Pinxton Guidance Notes** for more information about two of the schemes that the County Council have requested funding for.

### Our investment plan

The County Council support and promote partnership funding of schemes that benefit a number of partners, providing multi-benefits.

Moving forward the County Council will continue to do the following to seek as much funding for the people of Derbyshire as possible (Key Action 3.2). The FRM team will:

- Identify new projects and develop a project plan which extends well into the future;
- Identify all sources of partnership funding available; and
- Present all viable bids to the Regional Flood and Coastal Committees.

The County Council will continue to work with other RMAs to identify studies/schemes that have multiple benefits (Key Action 3.7). This will ensure that the County Council can continue to develop integrated schemes that take into account a range of sources of flood risk and can deliver a range of benefits.

Rather than implementing large and expensive flood defence or relief schemes, future management of local flood risk by the County Council is likely to focus on smaller-scale prevention and resilience measures, (Key Action 4.2) such as:

- Community engagement to increase understanding and awareness;
- Developing a risk management approach for the function of all teams at the County Council and working with other organisations;
- Local actions by the County Council and local communities, land sacrifice schemes and small-scale water management schemes;
- Measures to improve personal resilience to events;
- Improved maintenance; and
- The implementation of Sustainable Drainage Systems (SuDS).

18. <https://www.gov.uk/government/publications/programme-of-flood-and-coastal-erosion-risk-management-schemes>



## 17. ACHIEVING WIDER ENVIRONMENTAL OBJECTIVES

To ensure that this strategy contributes to the achievement of wider environmental objectives it is important that it meets the requirements of the Strategic Environmental Assessment (SEA) Directive and the Water Framework Directive (WFD). A SEA has been produced in conjunction with the strategy and is presented in **Appendix 2**. The SEA is an important tool to help understand the environment in Derbyshire and help to steer any decisions towards those that minimise adverse environmental effects and realise environmental benefits.

The County Council, like all RMAs, have a responsibility to support the Environment Agency to help achieve objectives under the WFD (Key Action 6.2). The FRM team take seriously the environmental implications of all of its operations, including actively promoting good environmental practice in consenting in ordinary watercourses and in consultation with Local Planning Authorities (LPAs) in the planning process (Key Action 3.5). For further information please refer to the **Water Framework Directive Guidance Notes**. The Action Plan details how the FRM team will work to achieve environmental benefits in all the teams function.

The FRM team have also produced **Environmental Best Practice Guidance Notes** which promote sustainable working practice and provides guidance for incorporating environmental benefits for flood risk management (Key Action 6.1). The FRM team actively promote deculverting and have produced a Culvert Policy (Key Action 2.3) shown in **Appendix 3**.



### Sustainable flood risk management

LPAs already have experience in planning for sustainable development via the creation of their Local Plans. The Flood and Water Management Act (FWMA, 2010) specifies that all RMAs must aim to make a contribution towards the achievement of sustainable development in their risk management function.

Sustainable development for flood risk management can be achieved by considering a range of alternative ways to reduce risk. All flood risk management activities in Derbyshire should:

- Not increase the flood risk for communities now and in the future;
- Take into account the environment, identify opportunities to enhance it and not compromise it for future generations; and
- Increase resilience of the communities of Derbyshire to the current and future flood risks.

**Sustainable Development = development that meets the current needs without compromising the ability of future generations to meet their own needs.**

These guiding principles apply to all flood risk management activities by the County Council and its partner RMAs and includes, but is not limited to, new development, flood risk alleviation projects and ordinary watercourse consenting. Likewise, the County Council will encourage residents, landowners, businesses and partner RMAs to take a similar approach to sustainable flood risk management where possible (Key Action 6.1).

## 18. A CATCHMENT APPROACH

Often, it is not effective to manage the sources and mechanisms of flooding at the local level. The County Council have worked towards a number of schemes which aim to achieve wider flooding and environmental benefits through wider catchment land management, (Key Action 6.3) for example a collaborative pilot project to enhance the River Ecclesbourne catchment and the wider River Derwent Land Management group (Key Action 6.1).

The **Forestry Commission**<sup>19</sup> are currently researching the use of floodplain woodland as a soft-engineered aid to flood risk management. Re-forestation catchment uplands and floodplains can delay and reduce surface water runoff. However, forest planting also offers wider benefits for water quality and gains in habitat, conservation and leisure. A number of external organisations in Derbyshire are currently working on large schemes that aim to restore or create new forested areas.

Other land management practices that can reap strong benefits to local and catchment flood risk are meadow restoration, moorland restoration and the introduction of woody debris dams. The County Council are aware that other partner organisations are actively promoting these practices in Derbyshire.

There is strong evidence that catchment land management improvements can deliver cumulative flood risk benefits. The County Council will continue to support projects and partnerships that aim to promote catchment restoration, and this forms a key part of Local Objective 6.

For further information please refer to the **Rural Land Management Guidance Notes**. Please also refer to 'A Community Guide to Your Water Environment'<sup>20</sup> produced by the National group 'Action with Communities in Rural England'.

19. Forest Research information on flood risk alleviation: <http://www.forestry.gov.uk>

20. [www.acre.org.uk](http://www.acre.org.uk)

## 19. DERBYSHIRE COUNTY COUNCIL'S LEVEL OF SERVICE FOR LOCAL FLOOD RISK MANAGEMENT

### Level of service during a flood event

In addition to the Council's role as the LLFA, the Authority also has duties under the Civil Contingencies Act (2004 – see **Relevant Legislation, Strategies and Plans Guidance Notes**). Emergency planning and incident management are vital to reducing the consequences of flooding for the people of Derbyshire.

'Flood Emergencies' from both local flood sources and Main Rivers are rated as Very High or High risk across Derbyshire. As such the County Council's Emergency Planning Team have developed a detailed 'Multi Agency Flood Contingency Plan' in line with Defra guidelines and approved by the Local Resilience Forum (Key Action 4.6). Derbyshire's "Community Risk Register 2015: What you need to know and how you can prepare for emergencies" and the Derbyshire Flood Contingency Plan can be viewed on the **County Council's Local Resilience Forum website**<sup>21</sup>.

### Derbyshire Prepared

As a flooding emergency becomes more serious, the Flood Contingency Plan can be implemented and all responding agencies (including the emergency services) will operate from the Council's Emergency Centre at County Hall, Matlock. The County Council will endeavour to redeploy staffing resources to respond to the flooding emergency. The FRM team will provide advice and information on critical flood assets and the Emergency Planning team will co-ordinate efforts between other responding organisations and the emergency services. With limited resources it will be necessary to carefully prioritise our response to calls for assistance. A policy is currently under development which will identify the following priorities:

- Danger to life;
- Vulnerable residents, not reasonably being able to take their own protective measures;
- Multiple properties being affected in a locality as opposed to a single property;
- Involvement of a critical asset where reactive maintenance or clearance will alleviate the problem; and
- Where a critical utility is at risk which may affect a whole area or community.

Currently during an emergency event the FRM team do not provide a reactive service. The FRM team can however provide support and guidance during and after a flood event which is explained further in **Part 1** of the strategy.

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21. [www.derbyshireprepared.org.uk](http://www.derbyshireprepared.org.uk)

## Level of service after a flood event

### Customer response prioritisation

Given the variety and complexity of the service related requirements placed by the County Council we must prioritise resources to deliver the most efficient service for the people of Derbyshire. It would be unrealistic for the Authority to attempt to assist everyone across the County all at once.

Table 2 illustrates the prioritisation methodology currently utilised by the FRM team for undertaking flooding investigations after a reported flood event. For further information please refer to the [Communication Strategy and Prioritisation Guidance Notes](#).

Another aspect which has a bearing on prioritisation is related to the statutory duties placed on the County Council under the FWMA and the Land Drainage Act (LDA 1991) as highlighted in the [Relevant Legislation, Strategies and Plans Guidance Notes](#).

Priority Level	Reported attributes of Flooding Incident
High	A report of flooding which identifies a risk to life, critical infrastructure or a minimum of five* internal properties flooded (residential dwelling or commercial)
Medium	At risk of multiple sources of flooding Internal flooding (surface water, fluvial (rivers), Highway or public sewer)
Low	At a low risk of flooding Flooding from groundwater sources External/garden flooding

\*Although we have identified five internal properties as a locally significant number this does not mean that we feel that one property for which has internally flooded is acceptable or not important on a personal level. By setting a threshold, a consistent level of service can be delivered across Derbyshire. All enquiries reported to the FRM team will be attended to and all appropriate advice and support will be provided to all customers for who report an enquiry to the FRM team.

**Table 2: Prioritisation of flooding investigations currently utilised by the FRM team**



### ***Formal flood investigations***

One of the County Council's key duties under the FWMA is to investigate flood events that occur within its area, as it deems necessary. Section 19 of the FWMA states:

On becoming aware of a flood in its area, the County Council must, to the extent that it considers it necessary or appropriate, identify:

- which RMAs have relevant flood risk management functions; and
- whether each of those RMAs has exercised, or is proposing to exercise, those functions in response to a flood event.

In some circumstances a reported flood enquiry in Derbyshire triggers a 'formal investigation'. The trigger for a formal investigation is when the enquiry meets or exceeds locally agreed criteria set by the County Council's Strategic Flood Board which includes:

- An event where five or more residential properties, or two or more non-residential (industrial/commercial) have been internally flooded;
- An event where a flooding problem is recurring and is supported by records or anecdotal evidence as having occurred more than once in a ten year return period for any given location;
- An event where threat to life and/or threat of injury or harm has occurred;
- An event which affects an area or community with a concentration or high proportion of vulnerable people;
- An event which impacts on critical infrastructure (water, sewage treatment, electricity/gas distribution, telecommunications and the strategic transport network) in excess of twelve hours before restoration of service; and
- An event which impacts on essential services (emergency services, NHS, Local or Central Government services) in excess of twelve hours before restoration of service.

For more information regarding a formal flood investigation please refer to the **[Flood Reporting and Enquiry Investigation Guidance Notes](#)**.

### ***Other flooding enquiries***

The FRM team log all reported incidents of flooding to the team on to the County Council's approved computer system. The team aim to provide a response to a flooding enquiry within 10 working days. During a busy period (during or after a flood event and depending on the criteria of a flood report) it may be weeks before the team are able to provide an informed level of response. If your enquiry relates to groundwater flooding or garden flooding then the response time may be slower due to other enquiries being prioritised. All responses are currently prioritised utilising the prioritisation matrix in Table 2.

Where the source and mechanism of flooding is not known then the FRM team will look to investigate further; in some cases requiring detailed technical reports or studies. For more information please refer to the [Using Experts Guidance Notes](#). The findings from these technical documents will be utilised to assist with identifying the most at risk communities in Derbyshire ensuring that we manage and direct our limited resources to support the communities that need the County Council the most. In some circumstances this technical information will be used to develop detailed design options for which could provide feasible flood mitigation projects for an area. Where a flood mitigation option is identified as being feasible then these technical reports will be used to support any bids for funding sources (please refer to the [Funding Guidance Notes](#)).



**FRM team member logging information on site**

For further guidance on how to report flooding incidents please refer to the [Flood Reporting and Enquiries Investigation Guidance Notes](#). For information relating to the Highways team please refer to the [Highway Statutory Duties and Vested Powers Guidance Notes](#).

**How do we intend to develop the way in which we prioritise our resources?**

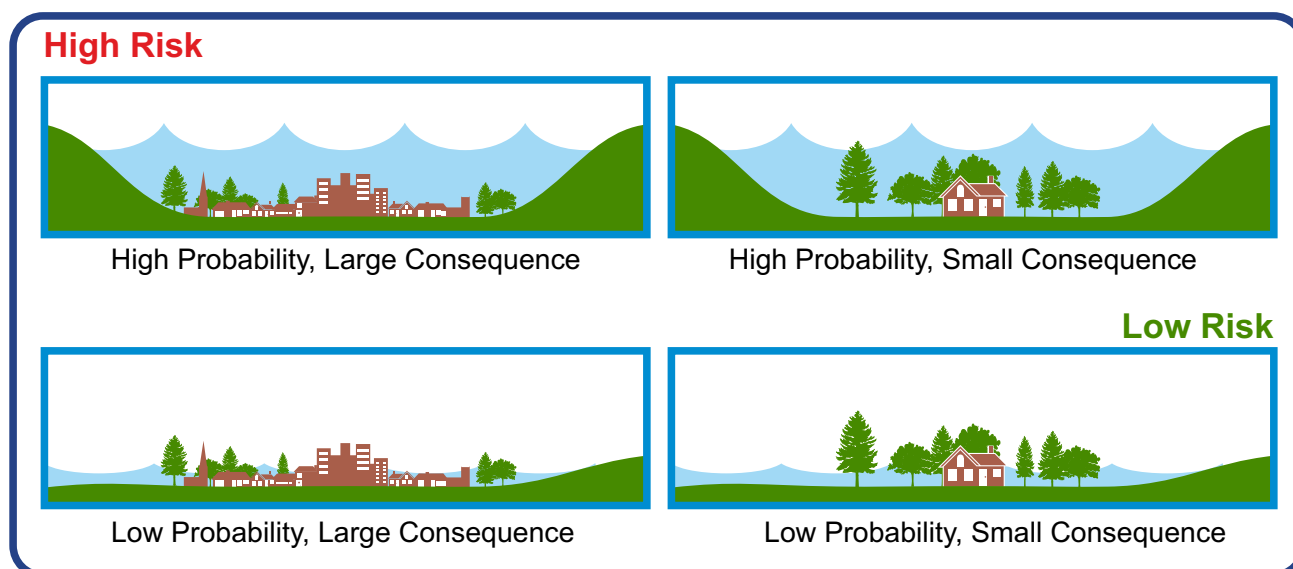
#### **PRIORITISATION = "ARRANGE ACCORDING TO PRIORITY"**

To enable us to better understand flood risk (refer to Figure 14) within Derbyshire we will need to undertake further analysis of the sources, mechanisms, extents and areas within Derbyshire which are currently at risk from local sources of flooding. In addition to understanding the current and predicted flood risk posed to the people of Derbyshire we will utilise predictive hydraulic modelling information to engage with communities whom may be at risk of flooding from local sources.

The FRM team intend to utilise a methodology for prioritisation which has recently been developed by the Environment Agency's Midlands Office. This approach does not look in isolation at fluvial and surface water sources but analyses the risk which both pose to a community. This will not detract from our role to lead on local sources but will cement a collaborative approach with the Environment Agency. This information will also allow the County Council's and all other RMA's/stakeholders to work collaboratively and focus limited resource and finances to support locally significant projects.

This analysis will be a critical tool in enabling us to build a strategic picture, over time, of the most beneficial flood risk management projects within the highest risk areas. As well as identifying possible schemes where appropriate and feasible this data set will enable us to develop our communication strategy for informing/supporting communities for where local resilience may be the most appropriate solution for that community (Key Action 5.1).

Further information will be produced at a later stage identified within the Action Plan as a high priority with a short timescale (refer to the once the countywide analysis has been undertaken. For further information regarding our current communication strategy please refer to the **Communication Strategy and Prioritisation Guidance Notes**.



**Figure 14: Illustration of the various types of flood risk**

## **Level of service for other flood risk management service related activities**

### ***Land drainage consents***

The County Council are the lead consenting authority for all applications for works within or near to ordinary watercourses across Derbyshire under the LDA. Any structure or obstruction to flow of an ordinary watercourse (temporary or permanent) will require legal consent (requiring a statutory fee of £50 per structure or obstruction). The FRM team have a statutory eight week period in which to reach a decision to accept or reject any proposals from receipt of all correct documentation required for the application. The team try to process all applications as swiftly as possible however the time taken depends on the resource constraints of the team and also in some cases the level of pre-application discussion. All applicants are encouraged to liaise with the team prior to submitting an application to reduce the need for a delay in beginning the assessment of the application process.

Enforcement action (not necessarily criminal sanction) may be taken where damaging or potentially damaging works have been undertaken without consent or are in contravention to consented works under Section 23 of the LDA. For further information please refer to the **Enforcement Powers Guidance Notes**.

## *Planning application responses*

The FRM team recognise the importance that planning decisions can have on flood risk and since 15th April 2015 have become a statutory consultee to LPAs for major development in relation to surface water drainage.

Although FRM team has a duty to provide a substantive response to all planning applications, as defined in Article 22 of the Town and Country Planning (Development Management Procedure) (England) Order 2015, the volume of consultations requires the team to prioritise the level of response to developments that present the most likely flood risk implications.

As such, bespoke technical appraisals of planning applications will primarily be undertaken for developments that are deemed 'locally significant' in terms of local flood risk management. Local significance is defined by the following factors:

- The developable site area is equal to or greater than one hectare in size;
- Local watercourses run through the site (hidden or open);
- Part of the proposed site falls within the outlines of the 1 in 100 year surface water flooding outline for the critical duration storm event (Surface Water Mapping Data);
- The site falls within a zone where the groundwater is predicted to be less than 3m below the ground surface for at least part of the year;
- There are assets that fall on the asset register within 500m of the site;
- Are there any historical records of flooding of significance within 100m of the site.

For developments that are not deemed locally significant, it is likely that current standing advice will be supplied to the LPA. Copies of the relevant standing advice can be requested by contacting the FRM team. For more information please also refer to the **Planning and Development Guidance Notes**.

## ***Environmental Information Request (EIR) and Freedom of Information Requests (FOI)***

The County Council have 20 working days in which to respond to a request for information under the Environmental Information Regulations (2004) and the Freedom of Information Act (2000). The team aim to process any request for information within 10 working days of receipt of the request. However this is dependent on the level of resource availability of the team at the time the request is received. Please refer the County Council website for further details and the **Data Held, Sources and Requests Guidance Notes**.

## **Other Risk Management Authorities level of service**

The level of service provided by each other RMA differs depending on the priorities of that organisation/body. Please refer to the relevant organisation/body for their most up to date level of service.

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## **20. ADDRESSING THE SKILLS AND RESOURCE GAP**

In order to fulfil the new duties placed on the County Council as the LLFA the FRM team has been established. In July 2010 Defra produced a **Capacity and Building Strategy**<sup>22</sup> which identified key knowledge required to be strengthened. The FRM team will need to increase their flood risk management capacity and skills in order to successfully deliver all responsibilities. Derbyshire's Action Plan indicates that key training to strengthen internal knowledge is required. Moving forward the team will continue to work closely with partner organisations to source additional resources and skills (Key Action 1.2).

To enable the FRM team to achieve the actions contained within the Action Plan, a resource plan will be produced which will outline the resource implications of the FWMA and will emphasise the need to retain existing staff and skills where possible.

As the team develops a better understanding of the flood risks across Derbyshire, the strategy (as a living document) will be amended accordingly (a requirement of the national strategy).

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22. <http://archive.defra.gov.uk/environment/flooding/documents/manage/surfacewater/capacitybuilding.pdf>









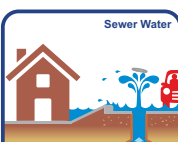


## GLOSSARY OF TERMS AND ABBREVIATIONS

TERM	DEFINITION
<b>BGS</b>	British Geological Survey
<b>Critical asset</b>	A structure or feature that is considered to have a significant effect on a flood risk in its area
<b>DEFRA</b>	Department For Environment, Food And Rural Affairs
<b>EIR</b>	Environmental Information Request
<b>EU</b>	European Union
<b>FCERM GIA</b>	Flood and Coastal Erosion Risk Management Grant In Aid
<b>FOI</b>	Freedom of Information
<b>FRM</b>	Flood Risk Management
<b>FWMA</b>	Flood and Water Management Act
<b>LDA</b>	Land Drainage Act
<b>The strategy</b>	Local Flood Risk Management Strategy
<b>LLFA</b>	Lead Local Flood Authority
<b>Local sources of flooding</b>	Flooding from surface water, groundwater and ordinary watercourses
<b>LPA</b>	Local Planning Authorities (District/Borough Councils)
<b>NPPF</b>	National Planning Policy Framework
<b>PFRA</b>	Preliminary Flood Risk Assessment
<b>RBD</b>	River Basin District
<b>RBMP</b>	River Basin Management Plan
<b>Resilience</b>	Capability to anticipate risk, limit impact and recover quickly
<b>RFCC</b>	Regional Flood and Coastal Committee
<b>RMA</b>	Risk Management Authority
<b>SEA</b>	Strategic Environmental Assessment
<b>SuDS</b>	Sustainable Drainage Systems
<b>WFD</b>	Water Framework Directive

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## FLOODING - WHO TO CALL?

In the event of an emergency, particularly if there is a danger to life, you should always call the police, ambulance or fire and rescue service on 112 or 999

  	Surface water, groundwater, ordinary watercourse flooding	Derbyshire County Council	<p>Please be aware that the FRM team are unable to provide a reactive service whilst flooding is ongoing, but will be advising emergency responders.</p> <p>01629 533190 flood.team@derbyshire.gov.uk</p>
	Highway water (non-trunk roads)	Derbyshire County Council	<p>01629 533190 contact.centre@derbyshire.gov.uk</p>
 	Main River, reservoir and coastal flooding	Environment Agency	<p>03708 506 506 enquiries@environment-agency.gov.uk</p>
	Sewer flooding	Severn Trent Water Yorkshire Water United Utilities	<p>STW - 0800 783 4444 YW - 0345 124 24 24 UU - 0345 672 3723</p>
	Highway water (trunk roads)	Highways England	<p>0300 123 5000 info@highwaysengland.co.uk</p>
	Canal flooding	Canal and River Trust or Derbyshire County Council	<p>0303 0404040 customer.services@canalrivertrust.org.uk</p> <p>01629 533190 contact.centre@derbyshire.gov.uk</p>